

## CHAPTER SEVEN

### CHARACTERISTICS INTRODUCTION AND REGULATORY DEFINITIONS

This chapter addresses procedures for “method-defined parameters”, where the analytical result is wholly dependant on the process used to make the measurement. Examples include the use of the toxicity characteristic leaching procedure (TCLP) to prepare a leachate, and the flash point, pH, paint filter liquids, and corrosivity tests. In these instances, changes to the specific methods may change the end result and incorrectly identify a waste as nonhazardous. Therefore, when the measurement of such method-defined parameters is required by regulation, those methods are not subject to the flexibility afforded in other SW-846 methods (such as described in the Disclaimer and Chapter Two of this manual).

#### 7.1 IGNITABILITY

##### 7.1.1 Introduction

This section discusses the hazardous characteristic of ignitability. The regulatory background of this characteristic is summarized, and the regulatory definition of ignitability is presented. The two testing methods associated with this characteristic, Methods 1010 and 1020, can be found in Chapter Eight.

The objective of the ignitability characteristic is to identify wastes that either present fire hazards under routine storage, disposal, and transportation or are capable of severely exacerbating a fire once started.

##### 7.1.2 Regulatory Definition

The following definitions have been taken nearly verbatim from the RCRA regulations (40 CFR 261.21) and the DOT regulations (49 CFR §§ 173.300 and 173.151).

##### Characteristics of Ignitability Regulation

A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

1. It is a liquid, other than an aqueous solution, containing < 24% alcohol by volume, and it has a flash point < 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM standard D-3278-78, or as determined by an equivalent test method approved by the Administrator under the procedures set forth in Sections 260.20 and 260.21. (ASTM standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103.)
2. It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
3. It is an ignitable compressed gas, as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or by equivalent test methods approved by the Administrator under Sections 260.20 and 260.21.

4. It is an oxidizer, as defined in 49 CFR 173.151.

#### Ignitable Compressed Gas

For the purpose of this regulation the following terminology is defined:

1. Compressed gas. The term "compressed gas" shall designate any material or mixture having in the container an absolute pressure exceeding 40 psi at 21°C (70°F) or, regardless of the pressure at 21°C (70°F), having an absolute pressure exceeding 104 psi at 54°C (130°F), or any liquid flammable material having a vapor pressure exceeding 40 psi absolute at 38°C (100°F), as determined by ASTM Test D-323.
2. Ignitable compressed gas. Any compressed gas, as defined in Paragraph 1, above, shall be classed as an "ignitable compressed gas" if any one of the following occurs:
  - a. Either a mixture of 13% or less (by volume) with air forms a flammable mixture, or the flammable range with air is wider than 12%, regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be acceptable to the Bureau of Explosives.
  - b. Using the Bureau of Explosives' Flame Projection Apparatus (see Note, below), the flame projects more than 18 in. beyond the ignition source with valve opened fully, or the flame flashes back and burns at the valve with any degree of valve opening.
  - c. Using the Bureau of Explosives' Open Drum Apparatus (see Note, below), there is any significant propagation of flame away from the ignition source.
  - d. Using the Bureau of Explosives' Closed Drum Apparatus (see Note, below), there is any explosion of the vapor-air mixture in the drum.

NOTE: Descriptions of the Bureau of Explosives' Flame Projection Apparatus, Open Drum Apparatus, Closed Drum Apparatus, and method of tests may be procured from the Association of American Railroads, Operations and Maintenance Dept., Bureau of Explosives, American Railroad Building, Washington, DC. 20036; 202-293-4048.

#### Oxidizer (as defined in 49 CFR 173.151)

For the purpose of this regulation, an oxidizer is any material that yields oxygen readily to stimulate the combustion of organic matter (e.g., chlorate, permanganate, inorganic peroxide, or a nitrate).

## 7.2 CORROSIVITY

### 7.2.1 Introduction

The corrosivity characteristic, as defined in 40 CFR 261.22, is designed to identify wastes that might pose a hazard to human health or the environment due to their ability to:

1. Mobilize toxic metals if discharged into a landfill environment;
2. Corrode handling, storage, transportation, and management equipment; or
3. Destroy human or animal tissue in the event of inadvertent contact.

In order to identify such potentially hazardous materials, EPA has selected two properties upon which to base the definition of a corrosive waste. These properties are pH and corrosivity toward Type SAE 1020 steel.

The following sections present the regulatory background and the regulation pertaining to the definition of corrosivity. The procedures for measuring pH of aqueous wastes are detailed in Method 9040, Chapter Six. Method 1110, Chapter Eight, describes how to determine whether a waste is corrosive to steel. Use Method 9095, Paint Filter Liquids Test, Chapter Six, to determine free liquid.

### 7.2.2 Regulatory Definition

The following material has been taken nearly verbatim from the RCRA regulations.

1. A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:
  - a. It is aqueous and has a pH  $\leq 2$  or  $\geq 12.5$ , as determined by a pH meter using either the test method specified in this manual (Method 9040) or an equivalent test method approved by the Administrator under the procedures set forth in Sections 260.20 and 260.21.
  - b. It is a liquid and corrodes steel (SAE 1020) at rate  $> 6.35$  mm (0.250 in.) per year at a test temperature of 55°C (130°F), as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69, as standardized in this manual (Method 1110) or an equivalent test method approved by the Administrator under the procedures set forth in Sections 260.20 and 260.21.

## 7.3 REACTIVITY

### 7.3.1 Introduction

The regulation in 40 CFR 261.23 defines reactive wastes to include wastes that have any of the following properties: (1) readily undergo violent chemical change; (2) react violently or form potentially explosive mixtures with water; (3) generate toxic fumes when mixed with water or, in the case of cyanide- or sulfide-bearing wastes, when exposed to mild acidic or basic conditions; (4) explode when subjected to a strong initiating force; (5) explode at normal temperatures and pressures; or (6) fit within the Department of Transportation's forbidden explosives, Class A explosives, or Class B explosives classifications.

This definition is intended to identify wastes that, because of their extreme instability and tendency to react violently or explode, pose a problem at all stages of the waste management process. The definition is to a large extent a paraphrase of the narrative definition employed by the National Fire Protection Association. The Agency chose to rely almost entirely on a descriptive,

prose definition of reactivity because most of the available tests for measuring the variegated class of effects embraced by the reactivity definition suffer from a number of deficiencies.

### 7.3.2 Regulatory Definition

#### 7.3.2.1 Characteristic Of Reactivity Regulation

A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

1. It is normally unstable and readily undergoes violent change without detonating.
2. It reacts violently with water.
3. It forms potentially explosive mixtures with water.
4. When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.
5. It is a cyanide- or sulfide-bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment. (Interim Guidance for Reactive Cyanide and Reactive Sulfide, Steps 7.3.3 and 7.3.4 below, can be used to detect the presence of reactive cyanide and reactive sulfide in wastes.)
6. It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.
7. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.
8. It is a forbidden explosive, as defined in 49 CFR 173.51, or a Class A explosive, as defined in 49 CFR 173.53, or a Class B explosive, as defined in 49 CFR 173.88.

### 7.3.3 Interim Guidance For Reactive Cyanide

#### 7.3.3.1 The current EPA guidance level is:

Total releasable cyanide: 250 mg HCN/kg waste.

#### 7.3.3.2 Test Method to Determine Hydrogen Cyanide Released from Wastes

## 1.0 SCOPE AND APPLICATION

1.1 This method is applicable to all wastes, with the condition that wastes that are combined with acids do not form explosive mixtures.

1.2 This method provides a way to determine the specific rate of release of hydrocyanic acid upon contact with an aqueous acid.

1.3 This test measures only the hydrocyanic acid evolved at the test conditions. It is not intended to measure forms of cyanide other than those that are evolvable under the test conditions.

## 2.0 SUMMARY OF METHOD

2.1 An aliquot of acid is added to a fixed weight of waste in a closed system. The generated gas is swept into a scrubber. The analyte is quantitated. The procedure for quantitating the cyanide is Method 9014.

## 3.0 INTERFERENCES

3.1 Interferences are undetermined.

## 4.0 APPARATUS AND MATERIALS (See Figure 1)

4.1 Round-bottom flask - 500-mL, three-neck, with 24/40 ground-glass joints.

4.2 Gas scrubber - 50 mL calibrated scrubber

4.3 Stirring apparatus - To achieve approximately 30 rpm. This may be either a rotating magnet and stirring bar combination or an overhead motor-driven propeller stirrer.

4.4 Addition funnel - With pressure-equalizing tube and 24/40 ground-glass joint and Teflon sleeve.

4.5 Flexible tubing - For connection from nitrogen supply to apparatus.

4.6 Water-pumped or oil-pumped nitrogen gas - With two-stage regulator.

4.7 Rotometer - For monitoring nitrogen gas flow rate.

4.8 Analytical balance - capable of weighing to 0.001 g.

## 5.0 REAGENTS

5.1 Reagent grade inorganic chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 Reagent water. All references to water in this method refer to organic-free reagent water, as defined in Chapter One.

5.3 Sulfuric acid (0.01N),  $\text{H}_2\text{SO}_4$ . Add 2.8 mL concentrated  $\text{H}_2\text{SO}_4$  to organic-free reagent water and dilute to 1 L. Withdraw 100 mL of this solution and dilute to 1 L to make the 0.01N  $\text{H}_2\text{SO}_4$ .

5.4 Cyanide reference solution, (1000 mg/L). Dissolve approximately 2.5 g of KOH and 2.51 g of KCN in 1 liter of organic-free reagent water. Standardize with 0.0192N AgNO<sub>3</sub>. Cyanide concentration in this solution should be 1 mg/mL.

5.5 Sodium hydroxide solution (1.25N), NaOH. Dissolve 50 g of NaOH in reagent water and dilute to 1 liter with organic-free reagent water.

5.6 Sodium hydroxide solution (0.25N), NaOH. Dilute 200 mL of 1.25N sodium hydroxide solution (Step 5.5) to 1 liter with organic-free reagent water.

5.7 Silver nitrate solution (0.0192N). Prepare by crushing approximately 5 g of AgNO<sub>3</sub> crystals and drying to constant weight at 40°C. Weigh 3.265 g of dried AgNO<sub>3</sub>, dissolve in organic-free reagent water, and dilute to 1 liter.

## 6.0 SAMPLE COLLECTION, PRESERVATION AND HANDLING

6.1 Samples containing, or suspected of containing, sulfide or a combination of sulfide and cyanide wastes should be collected with a minimum of aeration. The sample bottle should be filled completely, excluding all head space, and stoppered. Analysis should commence as soon as possible, and samples should be kept in a cool, dark place until analysis begins.

6.2 It is suggested that samples of cyanide wastes be tested as quickly as possible. Although they can be preserved by adjusting the sample pH to 12 with strong base, this will cause dilution of the sample, increase the ionic strength, and, possibly, change other physical or chemical characteristics of the waste which may affect the rate of release of the hydrocyanic acid. Storage of samples should be under refrigeration and in the dark.

6.3 Testing should be performed in a ventilated hood.

## 7.0 PROCEDURE

7.1 Add 50 mL of 0.25N NaOH solution (Step 5.6) to a calibrated scrubber and dilute with organic-free reagent water to obtain an adequate depth of liquid.

7.2 Close the system and adjust the flow rate of nitrogen, using the rotometer. Flow should be 60 mL/min.

7.3 Add 10 g of the waste to be tested to the system.

7.4 With the nitrogen flowing, add enough sulfuric acid to fill the flask half full. Start the 30 minute test period.

7.5 Begin stirring while the acid is entering the round-bottom flask. The stirring speed must remain constant throughout the test.

**NOTE:** The stirring should not be fast enough to create a vortex.

7.6 After 30 minutes, close off the nitrogen and disconnect the scrubber. Determine the amount of cyanide in the scrubber by Method 9014.

NOTE: Delete the "C" and "D" terms from the spectrophotometric procedure calculation and the "E" and "F" terms from the titration procedure calculation in Method 9014. These terms are not necessary for the reactivity determination because the terms determine the amount of cyanide in the entire sample, rather than only in the aliquot taken for analysis.

## 8.0 CALCULATIONS

8.1 Determine the specific rate of release of HCN, using the following parameters:

X = Concentration of HCN in diluted scrubber solution (mg/L)  
(This is obtained from Method 9014.)

L = Volume of solution in scrubber (L)

W = Weight of waste used (kg)

S = Time of measurement (sec.) = Time N<sub>2</sub> stopped - Time N<sub>2</sub> started

$$R = \text{specific rate of release (mg/kg/sec.)} = \frac{X \cdot L}{W \cdot S}$$

Total releasable HCN (mg/kg) = R x S

## 9.0 METHOD PERFORMANCE

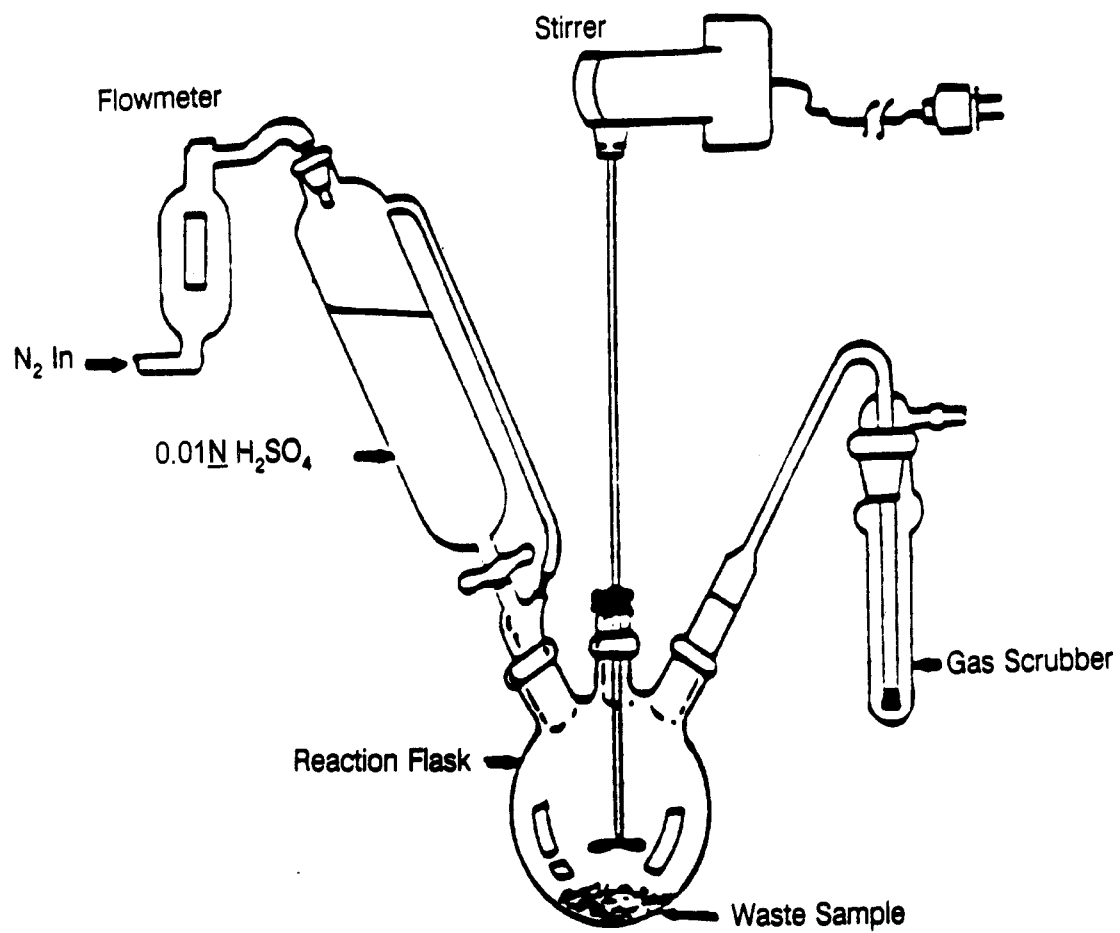
9.1 The operation of the system can be checked and verified using the cyanide reference solution (Step 5.4). Perform the procedure using the reference solution as a sample and determine the percent recovery. Evaluate the standard recovery based on historical laboratory data, as stated in Chapter One.

## 10.0 REFERENCES

10.1 No references are available at this time.

FIGURE 1.

APPARATUS TO DETERMINE HYDROGEN CYANIDE RELEASED FROM WASTES





### 7.3.4 Interim Guidance For Reactive Sulfide

7.3.4.1 The current EPA guidance level is:

Total releasable sulfide: 500 mg H<sub>2</sub>S/kg waste.

7.3.4.2 Test Method to Determine Hydrogen Sulfide Released from Wastes

## 1.0 SCOPE AND APPLICATION

1.1 This method is applicable to all wastes, with the condition that waste that are combined with acids do not form explosive mixtures.

1.2 This method provides a way to determine the specific rate of release of hydrogen sulfide upon contact with an aqueous acid.

1.3 This procedure releases only the hydrogen sulfide evolved at the test conditions. It is not intended to measure forms of sulfide other than those that are evolvable under the test conditions.

## 2.0 SUMMARY OF METHOD

2.1 An aliquot of acid is added to a fixed weight of waste in a closed system. The generated gas is swept into a scrubber. The analyte is quantified. The procedure for quantifying the sulfide is given in Method 9034.

## 3.0 INTERFERENCES

3.1 Interferences are undetermined.

## 4.0 APPARATUS AND MATERIALS (See Figure 2)

4.1 Round-bottom flask - 500-mL, three-neck, with 24/40 ground-glass joints.

4.2 Gas scrubber - 50 mL calibrated scrubber.

4.3 Stirring apparatus - To achieve approximately 30 rpm. This may be either a rotating magnet and stirring bar combination or an overhead motor-driven propeller stirrer.

4.4 Addition funnel - With pressure-equalizing tube and 24/40 ground-glass joint and Teflon sleeve.

4.5 Flexible tubing - For connection from nitrogen supply to apparatus.

4.6 Water-pumped or oil-pumped nitrogen gas - With two-stage regulator.

4.7 Rotometer - For monitoring nitrogen gas flow rate.

4.8 Analytical balance - capable of weighing to 0.001 g.

## 5.0 REAGENTS

5.1 Reagent grade inorganic chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 Reagent water. All references to water in this method refer to organic-free reagent water, as defined in Chapter One.

5.3 Sulfuric acid (0.01N),  $\text{H}_2\text{SO}_4$ . Add 2.8 mL concentrated  $\text{H}_2\text{SO}_4$  to organic-free reagent water and dilute to 1 L. Withdraw 100 mL of this solution and dilute to 1 L to make the 0.01N  $\text{H}_2\text{SO}_4$ .

5.4 Sulfide reference solution - Dissolve 4.02 g of  $\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$  in 1.0 L of organic-free reagent water. This solution contains 570 mg/L hydrogen sulfide. Dilute this stock solution to cover the analytical range required (100-570 mg/L).

5.5 Sodium hydroxide solution (1.25N), NaOH. Dissolve 50 g of NaOH in organic-free reagent water and dilute to 1 L with organic-free reagent water.

5.6 Sodium hydroxide solution (0.25N), NaOH. Dilute 200 mL of 1.25N sodium hydroxide solution (Step 5.5) to 1 L with organic-free reagent water.

## 6.0 SAMPLE COLLECTION, PRESERVATION AND HANDLING

6.1 Samples containing, or suspected of containing, sulfide wastes should be collected with a minimum of aeration. The sample bottle should be filled completely, excluding all head space, and stoppered. Analysis should commence as soon as possible, and samples should be kept in a cool, dark place until analysis begins.

6.2 It is suggested that samples of sulfide wastes be tested as quickly as possible. Although they can be preserved by adjusting the sample pH to 12 with strong base and adding zinc acetate to the sample, these will cause dilution of the sample, increase the ionic strength, and, possibly, change other physical or chemical characteristics of the waste which may affect the rate of release of the hydrogen sulfide. Storage of samples should be under refrigeration and in the dark.

6.3 Testing should be performed in a ventilated hood.

## 7.0 PROCEDURE

7.1 Add 50 mL of 0.25N NaOH solution to a calibrated scrubber and dilute with organic-free reagent water to obtain an adequate depth of liquid.

7.2 Assemble the system and adjust the flow rate of nitrogen, using the rotometer. Flow should be 60 mL/min.

7.3 Add 10 g of the waste to be tested to the system.

7.4 With the nitrogen flowing, add enough sulfuric acid to fill the flask half full, while starting the 30 minute test period.

7.5 Begin stirring while the acid is entering the round-bottom flask. The stirring speed must remain constant throughout the test.

NOTE: The stirring should not be fast enough to create a vortex.

7.6 After 30 minutes, close off the nitrogen and disconnect the scrubber. Determine the amount of sulfide in the scrubber by Method 9034.

7.7 Substitute the following for Step 7.3.2 in Method 9034: The trapping solution must be brought to a pH of 2 before proceeding. Titrate a small aliquot of the trapping solution to a pH 2 end point with 6N HCl and calculate the amount of HCl needed to acidify the entire scrubber solution. Combine the small acidified aliquot with the remainder of the acidified scrubber solution.

## 8.0 CALCULATIONS

8.1 Determine the specific rate of release of H<sub>2</sub>S, using the following parameters:

X = Concentration of H<sub>2</sub>S in scrubber (mg/L). (This is obtained from Method 9034.)

L = Volume of solution in scrubber (L)

W = Weight of waste used (kg)

S = Time of experiment (sec.) = Time N<sub>2</sub> stopped - Time N<sub>2</sub> started

$$R = \text{specific rate of release (mg/kg/sec.)} = \frac{X \cdot L}{W \cdot S}$$

Total releasable H<sub>2</sub>S (mg/kg) = R x S

## 9.0 METHOD PERFORMANCE

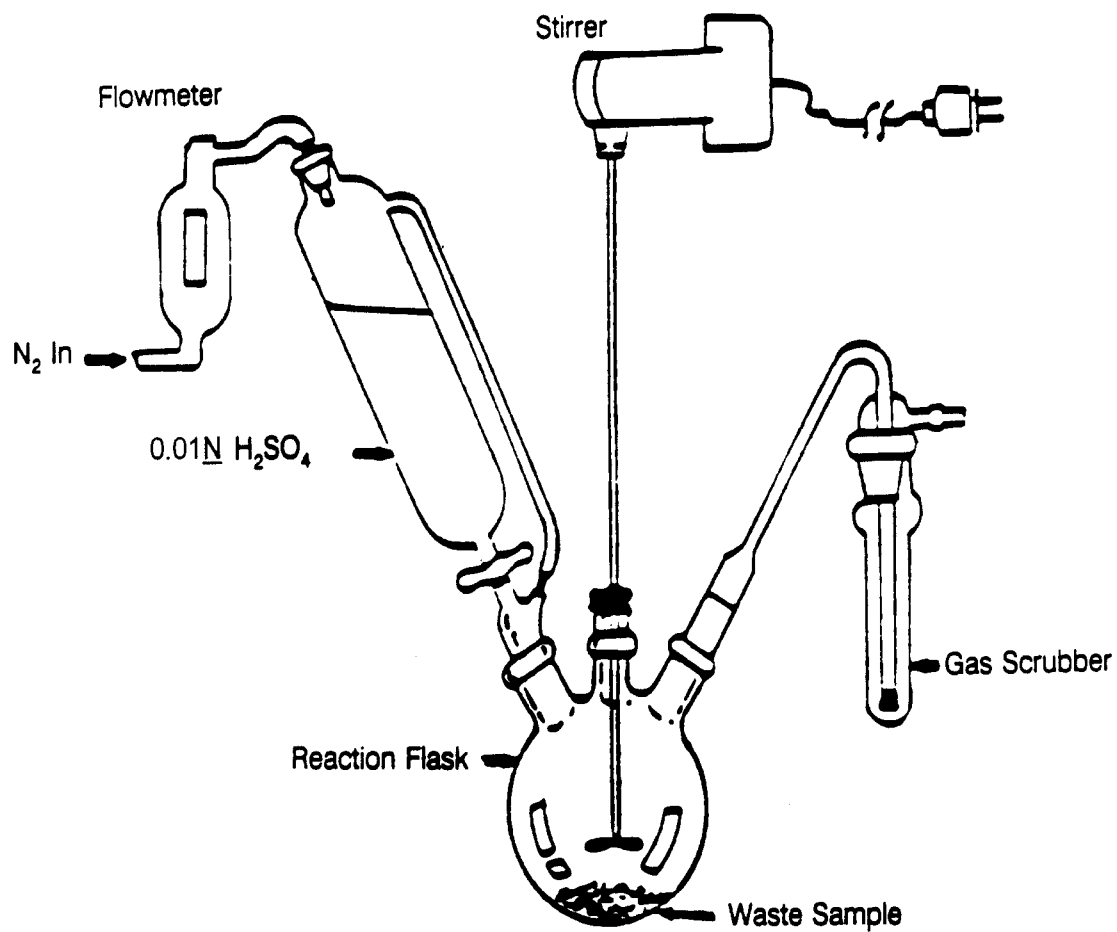
9.1 The operation of the system can be checked and verified using the sulfide reference solution (Step 5.4). Perform the procedure using the reference solution as a sample and determine the percent recovery. Evaluate the standard recovery based on historical laboratory data, as stated in Chapter One.

## 10.0 REFERENCES

10.1 No references are available at this time.

FIGURE 2.

APPARATUS TO DETERMINE HYDROGEN SULFIDE RELEASED FROM WASTES



## 7.4 TOXICITY CHARACTERISTIC LEACHING PROCEDURE

### 7.4.1 Introduction

The Toxicity Characteristic Leaching Procedure (TCLP) is designed to simulate the leaching a waste will undergo if disposed of in a sanitary landfill. This test is designed to simulate leaching that takes place in a sanitary landfill only. The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A subsample of a waste is extracted with the appropriate buffered acetic acid solution for  $18 \pm 2$  hours. The extract obtained from the TCLP (the "TCLP extract") is then analyzed to determine if any of the thresholds established for the 40 Toxicity Characteristic (TC) constituents (listed in Table 7-1) have been exceeded or if the treatment standards established for the constituents listed in 40 CFR §268.41 have been met for the Land Disposal Restrictions (LDR) program. If the TCLP extract contains any one of the TC constituents in an amount equal to or exceeding the concentrations specified in 40 CFR §261.24, the waste possesses the characteristic of toxicity and is a hazardous waste. If the TCLP extract contains LDR constituents in an amount exceeding the concentrations specified in 40 CFR §268.41, the treatment standard for that waste has not been met, and further treatment is necessary prior to land disposal.

### 7.4.2 Summary of Procedure

The TCLP consists of five steps (refer to Figure 3):

#### 1. Separation Procedure

For liquid wastes (*i.e.*, those containing less than 0.5% dry solid material), the waste, after filtration through a 0.6 to 0.8  $\mu\text{m}$  glass fiber filter, is defined as the TCLP extract.

For wastes containing greater than or equal to 0.5% solids, the liquid, if any, is separated from the solid phase and stored for later analysis.

#### 2. Particle Size Reduction

Prior to extraction, the solid material must pass through a 9.5-mm (0.375-in.) standard sieve, have a surface area per gram of material equal to or greater than  $3.1 \text{ cm}^2$ , or, be smaller than 1 cm in its narrowest dimension. If the surface area is smaller or the particle size larger than described above, the solid portion of the waste is prepared for extraction by crushing, cutting, or grinding the waste to the surface area or particle size described above. (Special precautions must be taken if the solids are prepared for organic volatiles extraction.)

#### 3. Extraction of Solid Material

The solid material from Step 2 is extracted for  $18 \pm 2$  hours with an amount of extraction fluid equal to 20 times the weight of the solid phase. The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatile analytes.

#### 4. Final Separation of the Extraction from the Remaining Solid

Following extraction, the liquid extract is separated from the solid phase by filtration through a 0.6 to 0.8  $\mu\text{m}$  glass fiber filter. If compatible, the initial liquid phase of the waste is added to the liquid extract, and these are analyzed together. If incompatible, the liquids are

analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

#### 5. Testing (Analysis) of TCLP Extract

Inorganic and organic species are identified and quantified using appropriate methods in the 6000, 7000, and 8000 series of methods in this manual or by equivalent methods.

##### 7.4.3 Regulatory Definition

Under the Toxicity Characteristic, a solid waste exhibits the characteristic of toxicity if the TCLP extract from a subsample of the waste contains any of the contaminants listed in Table 7-1 at a concentration greater than or equal to the respective value given in that table. If a waste contains <0.5% filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of analysis.

Under the Land Disposal Restrictions program, a restricted waste identified in 40 CFR §268.41 may be land disposed only if a TCLP extract of the waste or a TCLP extract of the treatment residue of the waste does not exceed the values shown in Table CCWE of 40 CFR §268.41 for any hazardous constituent listed in Table CCWE for that waste. If a waste contains <0.5% filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of analysis.

TABLE 7-1.

## MAXIMUM CONCENTRATION OF CONTAMINANTS FOR TOXICITY CHARACTERISTIC

Contaminant	Regulatory Level (mg/L)
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
o-Cresol	200.0 <sup>1</sup>
m-Cresol	200.0 <sup>1</sup>
p-Cresol	200.0 <sup>1</sup>
Cresol	200.0 <sup>1</sup>
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene	0.13 <sup>2</sup>
Endrin	0.02
Heptachlor (and its hydroxide)	0.008
Hexachlorobenzene	0.13 <sup>2</sup>
Hexachloro-1,3-butadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0 <sup>2</sup>
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5

(continued)

Table 7-1  
(continued)

Contaminant	Regulatory Level (mg/L)
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl chloride	0.2

<sup>1</sup>If o-, m-, and p-cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

<sup>2</sup>Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.



FIGURE 3.

TOXICITY CHARACTERISTIC LEACHING PROCEDURE FLOWCHART

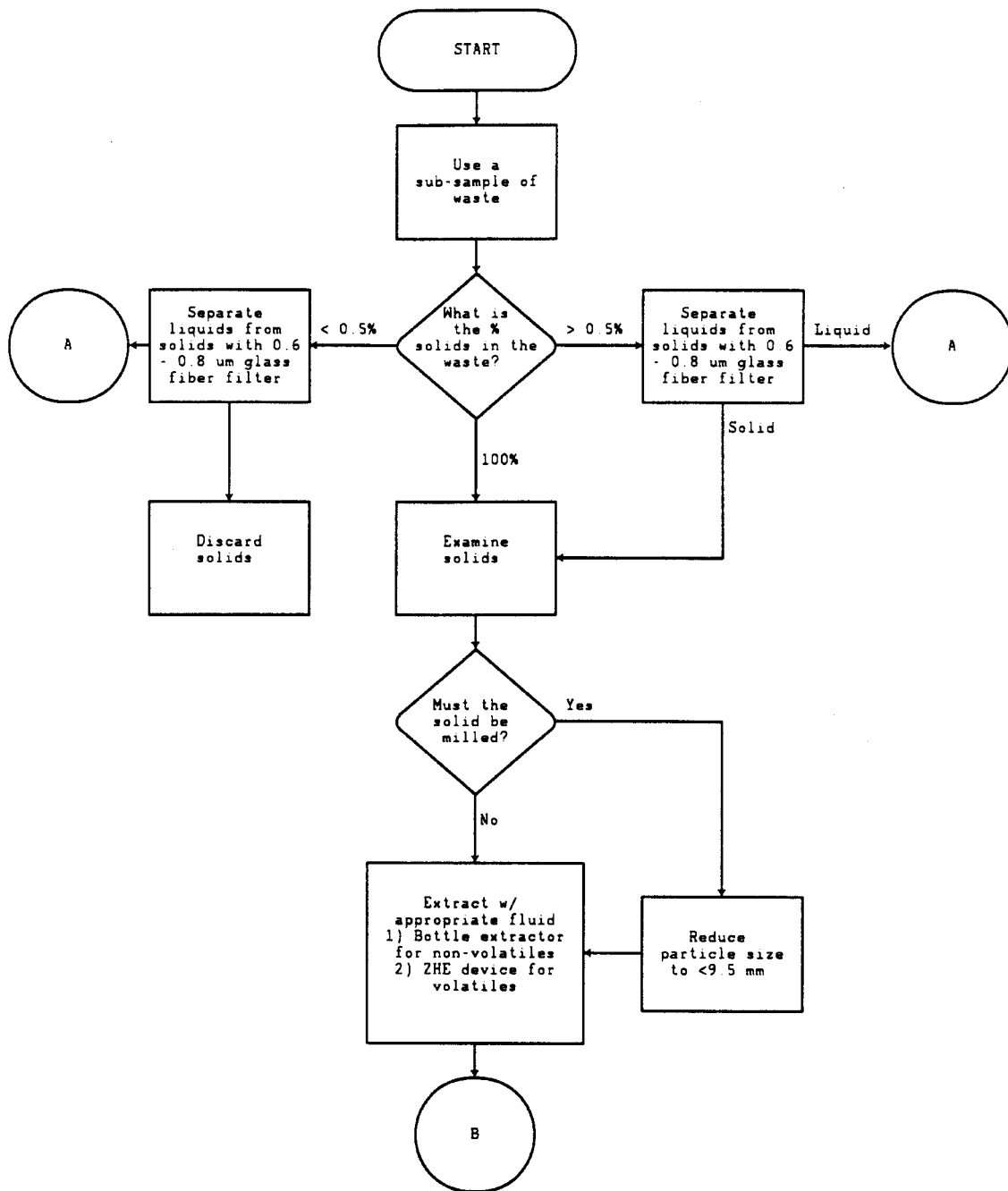


FIGURE 3 (continued)

